AMENDMENTS TO THE CLAIMS

Please amend claim 1 as indicated below. No new matter is believed to be introduced as a result of the foregoing amendment.

1. **(Currently Amended)** An optoelectronic assembly comprising:

~~an optoelectronic device housed in~~ a transistor outline package that houses an optoelectronic device, the transistor outline package having a base and a signal lead that traverses an aperture in the base;

a circuit interconnect coupled to the optoelectronic device and the transistor outline package, the circuit interconnect having an impedance that approximately matches an impedance of the signal lead for a predefined range of operating frequencies, and ~~wherein~~ the circuit interconnect ~~comprises~~ comprising:

an insulator ~~including:~~ having first and second sides;

a data signal trace on ~~a~~ the first side of the insulator for transmitting a data signal current between the optoelectronic device and a device external to the transistor outline package, wherein the data signal trace is electrically and mechanically connected to the signal lead; and

a conductor on ~~a~~ the second side of the insulator for transmitting a ground current between the transistor outline package and ~~the~~ a device external to the transistor outline package, ~~the conductor having a current path that runs parallel to the data signal trace,~~

wherein the conductor is electrically and mechanically bonded to an external surface of the base so as to form a ground current connection between the base and the conductor~~;~~

~~wherein the insulator, the conductor and the data signal trace are configured so that, for operation in a predefined range of frequencies above 3 GHz, impedance of the circuit interconnect approximately matches impedance of the signal lead of the optoelectronic device~~.

2. **(Original)** The optoelectronic assembly of claim 1, wherein the base of the optoelectronic device includes a concentric dielectric ring situated around the signal lead, electrically isolating the signal lead from the base, and a concentric ground ring situated round the dielectric ring, the concentric ground ring forming a direct contact with the conductor of the circuit interconnect.

3. **(Original)** The optoelectronic assembly of claim 2, wherein the base of the optoelectronic device has a back, planar surface, and the ground ring rises above the back, planar surface of the base to facilitate formation of an electrical connection to the base via the ground ring.

4. **(Original)** The optoelectronic assembly of claim 3, wherein the ground ring is an integral part of the base of the optoelectronic device.

5. **(Original)** The optoelectronic assembly of claim 3, wherein the ground ring is a metal ring, separate from the base, that is electrically and mechanically connected to the base.

6. **(Original)** The optoelectronic assembly of claim 1, wherein the base of the optoelectronic device has a back, planar surface; the base of the optoelectronic device includes a concentric dielectric ring situated around the signal lead, electrically isolating the signal lead from the base; a ground lug rises above the back, planar surface of the base to facilitate formation of an electrical connection to the base via the ground lug, the ground lug including an aperture through which the signal lead extends.

7. **(Original)** The optoelectronic assembly of claim 1, wherein the optoelectronic device includes a photo diode and the device external to the transistor outline package includes a circuit board to which the circuit interconnect is coupled.

8. **(Original)** The optoelectronic assembly of claim 1, wherein the optoelectronic device includes a laser diode and the device external to the transistor outline package includes a circuit board to which the circuit interconnect is coupled.

9. **(Original)** The optoelectronic assembly of claim 1, wherein the circuit interconnect is elongate in shape and flexible.

10. **(Original)** The optoelectronic assembly of claim 1, wherein the predefined range of frequencies is 3 GHz to 10 GHz.

11. **(Original)** The optoelectronic assembly of claim 1, wherein the impedance of the circuit interconnect is within a factor of 1.5 of the impedance of the signal lead of the transistor outline package.

12. **(Original)** The optoelectronic assembly of claim 1, wherein the insulator, the conductor and the data signal trace have physical dimensions that are configured so that for operation in the predefined range of frequencies, impedance of the circuit interconnect approximately matches impedance of the device external to the transistor outline package.

13. **(Original)** The optoelectronic assembly of claim 12, wherein the impedance of the circuit interconnect is within a factor of 1.5 of the impedance of the signal lead of the transistor outline package, and the impedance of the circuit interconnect is within a factor of 1.5 of the impedance of the device external to the transistor outline package.

14. **(Original)** The optoelectronic assembly of claim 12, wherein the transistor outline package includes a pedestal shaped to be concentrically positioned around at least a portion of the signal lead.

15. **(Original)** The optoelectronic assembly of claim 1, wherein the transistor outline package includes a pedestal shaped to be concentrically positioned around at least a portion of the signal lead.

16. **(Original)** The optoelectronic assembly of claim 1, wherein the conductor on the second side of the circuit interconnect directly contacts the base of the transistor outline package.

17. **(Original)** The optoelectronic assembly of claim 1, wherein the signal lead is a high frequency data signal contact that extends through the transistor outline package and is electrically connected to the optoelectronic device inside the transistor outline package.

18. **(Original)** An optoelectronic assembly comprising:

an optoelectronic device housed in a transistor outline package having a base, first and second high frequency signal leads that traverses first and second apertures in the base, and a power signal lead that traverses a third aperture in the base; the transistor outline package including a pedestal shaped to be concentrically positioned around at least a portion of the first and second signal leads and electrically coupled to the base;

a circuit interconnect coupled to the optoelectronic device and the transistor outline package, wherein the circuit interconnect comprises an insulator including:

first, second and third data signal traces on a first side for transmitting a power signal and first and second high frequency data signal currents between the

optoelectronic device and a device external to the transistor outline package, wherein the first, second and third data signal traces are electrically and mechanically connected to the first, second and power signal leads, respectively; and

a conductor on a second side for transmitting a ground current between the transistor outline package and the device external to the transistor outline package, the conductor having a current path that runs parallel to the first, second and third data signal traces, wherein the conductor is electrically and mechanically bonded to an external surface of the base so as to form a ground current connection between the base and the conductor;

wherein the insulator, the conductor and the data signal trace are configured so that, for operation in a predefined range of frequencies above 3 GHz, impedance of the circuit interconnect approximately matches impedance of the signal lead of the optoelectronic device.

19. **(Original)** The optoelectronic assembly of claim 18, wherein a first and second data signal traces comprise a differential data signal trace for transmitting a differential data signal current between the optoelectronic device and the device external to the transistor outline package.

20. **(Original)** The optoelectronic assembly of claim 18, wherein the optoelectronic device includes a photo diode and the device external to the transistor outline package includes a received signal amplifier to which the circuit interconnect is coupled; and

the insulator, the conductor and the data signal trace are configured so that, for operation in the predefined range of frequencies, impedance of the circuit interconnect approximately matches impedance of the device external to the transistor outline package.

21. **(Original)** The optoelectronic assembly of claim 18, wherein the optoelectronic device includes a laser diode and the device external to the transistor outline package includes a laser driver circuit to which the circuit interconnect is coupled; and

the insulator, the conductor and the data signal trace are configured so that, for operation in the predefined range of frequencies, impedance of the circuit interconnect approximately matches impedance of the device external to the transistor outline package.

22. **(Original)** The optoelectronic assembly of claim 18, wherein the circuit interconnect is elongate in shape and flexible.

23. **(Original)** The optoelectronic assembly of claim 18, wherein the conductor on the second side of the circuit interconnect directly contacts the transistor outline package.

24. **(Original)** The optoelectronic assembly of claim 18, wherein the base of the optoelectronic device includes a concentric dielectric ring situated around each of the first, second and power signal leads, electrically isolating the first, second and power signal leads from the base, and

a concentric ground ring is situated around the dielectric ring of each of the first and second signal leads, each concentric ground ring forming a direct contact with the conductor of the circuit interconnect.

25. **(Original)** The optoelectronic assembly of claim 24, wherein the base of the optoelectronic device has a back, planar surface, and the ground rings rise above the back, planar surface of the base to facilitate formation of an electrical connection to the base via the ground ring.

26. **(Original)** The optoelectronic assembly of claim 25, wherein each ground ring is an integral part of the base of the optoelectronic device.

27. **(Original)** The optoelectronic assembly of claim 25, wherein each ground ring is a metal ring, separate from the base, that is electrically and mechanically connected to the base.

28. **(Original)** The optoelectronic assembly of claim 18, wherein the base of the optoelectronic device has a back, planar surface; the base of the optoelectronic device includes a concentric dielectric ring situated around each of the first, second and power signal leads, electrically isolating the first, second and power signal leads from the base; a ground lug rises above the back, planar surface of the base to facilitate formation of an electrical connection to the base via the ground lug, the ground lug including first and second apertures through which the first and second signal leads extend.

29. **(Original)** An optoelectronic assembly comprising:

a plurality of transistor outline packages housing a like plurality of optoelectronic devices;

a plurality of circuit interconnects, each respective circuit interconnect coupled to a respective one of the optoelectronic devices and a respective one of the transistor outline packages, wherein each respective circuit interconnect comprises an elongate, flexible insulator including:

a plurality of data signal traces on a first side for transmitting a plurality of data signal currents between the respective optoelectronic device and a respective device external to the respective transistor outline package; and

a conductor on a second side for transmitting a ground current between the respective transistor outline package and the respective device external to the respective transistor outline package; the conductor having a current path that runs parallel to the plurality of data signal traces; and

a circuit board on which each of the respective devices external to the transistor outline packages is mounted;

wherein the insulator, the conductor and the data signal traces of each of the plurality of circuit interconnects are configured so that, for operation in a predefined range of frequencies above 3 GHz, impedance of the circuit interconnect approximately matches impedance of the respective device external to the transistor outline package.

30. **(Original)** The optoelectronic assembly of claim 29, wherein each transistor outline package includes a plurality of signal leads; and

the insulator, the conductor and the data signal traces of each of the plurality of circuit interconnects are configured so that, for operation in the predefined range of frequencies, impedance of the circuit interconnect approximately matches impedance of the signal leads. of the respective transistor outline package.

31. **(Original)** The optoelectronic assembly of claim 30, wherein the impedance each signal lead of the plurality of signal leads of each transistor outline package approximately matches impedance of circuitry within the transistor outline package.

32. **(Original)** The optoelectronic assembly of claim 29, wherein

each transistor outline package includes a signal lead; and

each transistor outline package of the plurality of transistor outline packages includes a pedestal shaped to be concentrically positioned around at least a portion of the signal lead.

33. **(Original)** The optoelectronic assembly of claim 29, wherein

a first transistor outline package of the plurality of transistor outline packages includes a signal lead; and

the first transistor outline package includes a pedestal shaped to be concentrically positioned around at least a portion of the signal lead.

34. **(Original)** The optoelectronic assembly of claim 29, wherein the conductor on the second side of each circuit interconnect directly contacts the respective transistor outline package.

35. **(Original)** The optoelectronic assembly of claim 29, wherein each transistor outline package includes a signal lead electrically connected to the optoelectronic device housed in the transistor outline package, a concentric dielectric ring situated around the signal lead, and a concentric ground ring situated around the dielectric ring, the concentric ground ring directly contacting the conductor on the second side of the respective circuit interconnect.

36. **(Original)** An optoelectronic transceiver comprising:

a light source housed in a transmitter transistor outline package;

a detector housed in a receiver transistor outline package;

a transmitter circuit interconnect coupled to the light source and the transmitter transistor outline package, wherein the transmitter circuit interconnect includes:

a first data signal trace on a first side for transmitting data signal current from the light source to a first device external to the transistor outline package; and

a first conductor on a second side for transmitting a ground current between the transmitter transistor outline package and the first device external to the transistor outline package; the first conductor having a current path that runs parallel to the first data signal trace; wherein the first conductor and the first data signal trace are configured so that, for operation in a predefined range of frequencies above 3 GHz, impedance of the transmitter circuit interconnect approximately matches impedance of the light source housed in the transmitter transistor outline package;

a receiver circuit interconnect coupled to the detector and the receiver transistor outline package, wherein the receiver circuit interconnect includes:

a second data signal trace on a first side for transmitting signal current from the detector to a second device external to the transistor outline package; and

a second conductor on a second side for transmitting a ground current between the receiver transistor outline package and the second device external to the transistor outline package; the second conductor having a current path that runs parallel to the second data signal trace; wherein the second conductor and the second data signal trace are configured so that, for operation in a predefined range of frequencies above 3 GHz, impedance of the receiver circuit interconnect approximately matches impedance of the detector housed in the receiver transistor outline package.